

March 27, 1954

Dr. W. W. Umbreit  
Merck Institute  
Rahway, New Jersey

Dear Dr. Umbreit:

Thank you for the culture of *E. coli*, "Gratia", Streptomycin resistant which I received yesterday.

I am sorry to have to report that I can not confirm "non-aerobic" behavior of the growth of this strain. 16 hour density readings on cultures (10 ml) incubated at 37 C. are as follows:

	Minimal medium (Davis)	Penassay
Standing	3.8	8.3
Aerated (by bubbling)	13.6	40.6

The relative density units are ad hoc, probably 1 unit = ca  $2 \times 10^8$ /ml/  
I do not have the sensitive strain for a strict comparison, but the effect of aeration here seems to be comparable to what I have observed generally with all other sensitive and resistant strains we have examined.

Yours sincerely,

Joshua Lederberg

✓ pure S<sup>R</sup> after  
aeration: this -

W 2436  
10X optical density  
at 550 mμ  
in Coleman  
18 mm test tubes.